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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/075,839 | 02/13/2002 | Gerard Briand | PF010010 | 9042 |

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04/25/2005

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EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,839

Applicant(s)

BRIAND ET AL.

Examiner

Y. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 8, 9, and 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhu (6,462,791) for the same reasons as set forth in Section 6 of the last office action, dated 12/8/04.

Zhu, in Figures 6 and 8, discloses the same frequency converter 145, video coder 110, and method of detecting the reliability of a field of movement vectors of one image in a sequence of video images as specified in claims 1-3, 8, 9, and 11-14 of the present invention, characterized in that it includes a stage of calculating a stability parameter for the field, on the basis of a comparison S330, over two successive images, of the number of occurrences of the majority vectors of the movement-vectors fields of each of these images (Fig. 5), a field being defined as stable if the variation in

the number of occurrences lies within a predefined bracket (THRESHOLD), and a stage of deciding on reliability S570 on the basis of this stability parameter.

With respect to claims 2, 3, and 12, Zhu also includes a stage of calculating disturbance parameter for the field, on the basis a comparison S530, over two successive images, of the number of occurrences of the movement vector corresponding to the majority vector of one of the two images, a field being defined as not disturbed if the variation in the number of occurrences lies within a predefined bracket T, and in that the decision stage is also based on this disturbance parameter; and if the variation in the number of occurrences of the zero vector S540 in the movement-vectors field, between successive images, lies within a predefined bracket, and in that the decision stage is also based on this disturbance parameter.

With respect to claims 8 and 9, Zhu discloses that the occurrences of the vectors are relative to the value of the horizontal component (x) of these vectors; and the decision stage also takes into account a parameter for the detection of saturation of the movement-vectors field (Fig. 5, vector field orientation).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 4-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu in view of Avis et al (4,864,398) for the same reasons as set forth in Section 9 of the last office action, dated 12/8/04.

Although Zhu discloses detecting movement vectors based on a plurality of images, it is noted Zhu differs from the present invention in that it fails to particularly disclose calculating the vectors in a time-domain for detection of a change of scene in the video sequence as specified in claims 4-7 and 10. Avis et al however, in Figures 12-15, teaches the concept of such well known stability state on the basis of the stability parameters for this image and of P-1 preceding images, a state being declared as stable or disturbed (e.g. Fig. 13) if a minimum number of stable fields is detected among these P images, P and Q being integers such as 2 and 1, and in that the decision stage is also based on this stability state (Fig. 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Zhu and Avis et al before him/her, to exploit the common time-domain stability calculation technique as taught by

Avis et al in the vector reliability detection method of Zhu in order to provide smooth and predictable motion vectors, so improving the overall subjective effect in the final picture.

Response to Arguments

5. Applicant's arguments filed 3/8/05 have been fully considered but they are not persuasive. Applicant asserts on pages 8 and 9 of the Remarks that Zhu fails to disclose any reliability of motion vector. Column 7, lines 1-8 of Zhu however, disclose the concept of such common reliability issues whenever motion vectors are calculated. Applicant also asserts that Zhu fails to disclose the comparison of the number of occurrences. Figure 5 of Zhu, however, illustrates the concept of such comparison wherein at least 25 vectors are taken into account on the variation of the vector field.

6. In response to applicant's argument on page 9 of the Remarks that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., calculation of a difference between a first number of occurrences and a second number of occurrences of the majority vectors of the motion vector fields of each image; and specification page 9, lines 32-35) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding applicant's argument on page 10 of the Remarks that neither Zhu nor Avis et al discloses the means to calculate a stability parameter, it was clearly stated in the previous office action that Zhu discloses all these means in Figure 6. It is true that Avis et al does not disclose any decision of the reliability as that claimed by the

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Applicant. However, examiner does not rely on Avis et al to teach such capabilities because they are already disclosed in Zhu. Avis et al merely provides the motivation that it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both references of Zhu and Avis et al before him/her, to modify the reliability detecting device of Zhu to be upgraded to include also processing capability in the time-domain by simply calculating for an image at time t and for any preceding images $t-1$ on the basis of the stability parameters for this image and of $P-1$ preceding images, a state being declared as stable or disturbed (e.g. Fig. 13) if a minimum number of stable fields is detected among these P images, and in that the decision is also based on this stability state (Fig. 15) as specified in claims 1-14. With an upgraded detection device, one of ordinary skill in the art would have had no difficulty in applying subsequent image processing such as scene change detection by the device, as illustrated in Figure 5 of Zhu, since detection of changes between consecutive images is a necessary and well known technique for any motion vector processing system.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

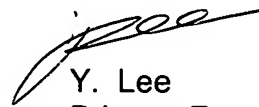
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334.

The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Y. Lee
Primary Examiner
Art Unit 2613